# CDP-C312M

# SERVICE MANUAL

*US Model*
*Canadian Model*
*AEP Model*
*Australian Model*
*E Model*

| | |
|---|---|
| Model Name Using Similar Mechanism | CDP-C311M/C313M/C315M |
| CD Mechanism Type | CDM16H2-5BD3 |
| Optical Pick-Up Block Type | BU-5BD3 |

## SPECIFICATIONS

| | |
|---|---|
| System | Compact disc digital audio system |
| Laser | Semiconductor laser<br>($\lambda$ = 780 nm)<br>Emission duration: continuous |
| Laser output | Max. 44.6 $\mu$W*<br>* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block. |
| Frequency response | 2 Hz – 20 kHz (±0.5 dB) |
| Signal to noise ratio | More than 100 dB |
| Dynamic range | More than 98 dB |
| Harmonic distortion | Less than 0.005% (1 kHz) |
| Channel separation | More than 100 dB (1 kHz) |
| Wow and flutter | Below measurable limit |
| Outputs<br>LINE OUT<br>(phono jacks) | Output level 2 V (at 50 kilohms)<br>Load impedance over 10 kilohms |

### General

| | |
|---|---|
| Power requirements | US, Canadian model: 120 V AC, 60 Hz<br>Australian model: 240 V AC, 50/60 Hz<br>AEP model: 220—230 V AC, 50/60 Hz<br>E model: 110—120 or 220—240V AC adjustable, 50/60Hz |
| Power consumption | 12 W |
| Dimensions (not including projecting parts and controls) | Approx. 355 × 120 × 385 mm (w/h/d)<br>(14 × 4¾ × 15¼ inches) |
| Weight | Approx. 4.9 kg (10 lbs 13 oz) |

### Supplied accessories

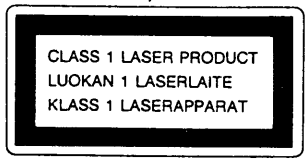
| | |
|---|---|
| Audio signal connecting cord | 1<br>(phono plug × 2 ↔ phono plug × 2) |

Design and specifications subject to change without notice.

## COMPACT DISC PLAYER

SONY®

For the European countries




This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

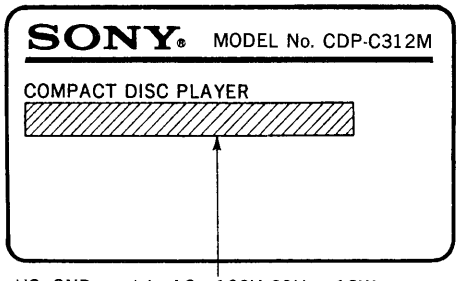
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

## NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

## MODEL IDENTIFICATION

—Model Number Label—




US, CND model: AC: 120V 60Hz 12W
AEP model: AC: 220—230V~50/60Hz
AUS model: AC: 240V~50/60Hz
E model: AC: 110—120, 220—240V~50/60Hz 12W

- CND: Canadian model
- AUS: Australian model

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

# SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

## LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

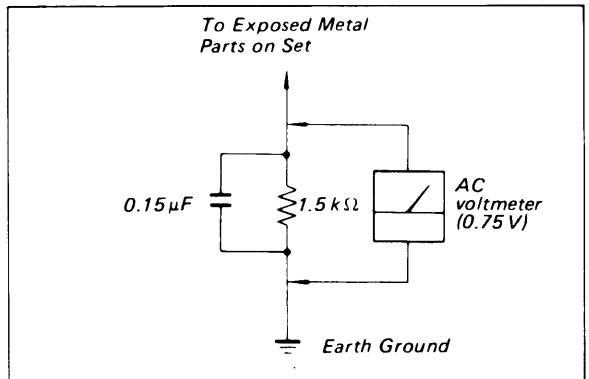



*Fig. A. Using an AC voltmeter to check AC leakage.*

**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**

**LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.**

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780nm
   - Emission Duration: continuous
   - Laser Output Power: less than 44.6 $\mu$W*
     * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

# BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

**ADVARSEL!!**

**Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.**

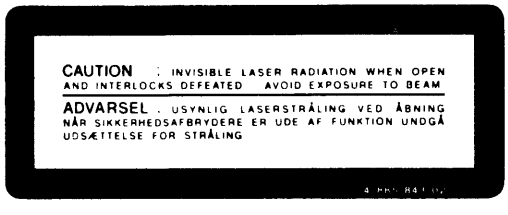
1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*
     * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

# LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

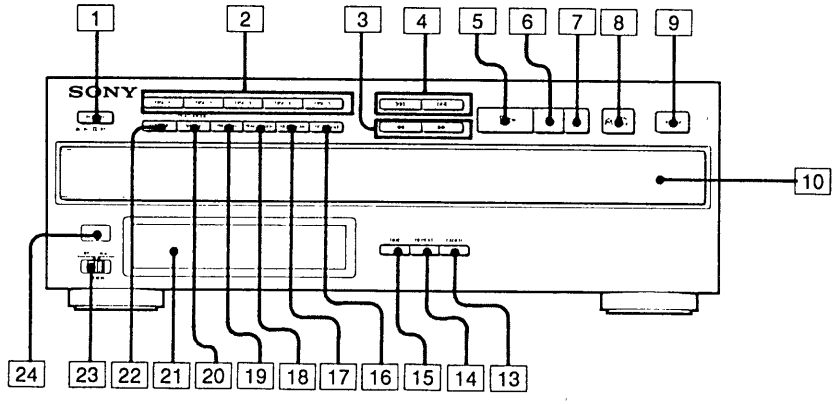
1. Advarsel Mærkning


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

**VAROITUS:** Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

# SECTION 1
# GENERAL

## 1-1. LOCATION AND CONTROL




1 POWER switch
2 DISC 1-5 buttons
3 ◀◀/▶▶ (manual search) buttons
4 I◀◀/▶▶I (AMS*) buttons
5 ▶ (play) button
6 II (pause) button
7 ■ (stop) button
8 ⏏ OPEN/CLOSE button
9 DISC SKIP button
10 Disc tray
13 FADER button
14 REPEAT button
15 TIME button
16 EDIT/TIME FADE button
17 MUSIC SCAN button
18 PEAK SEARCH button
19 PROGRAM button
20 SHUFFLE button
21 Display window
22 CONTINUE button
23 TIMER switch
24 Remote sensor

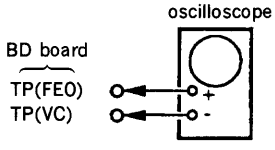
* AMS is the abbreviation of Automatic Music Sensor.

# SECTION 2
# ELECTRICAL BLOCK CHECKING

**Note :**

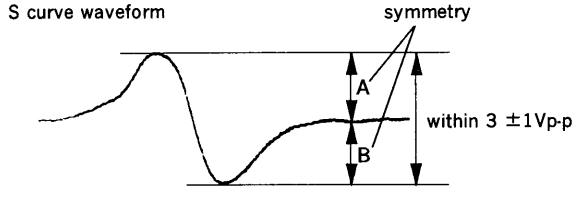
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

## S Curve Check




**Procedure :**

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

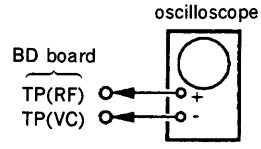



5. After check, remove the lead wire connected in step 2.

**Note :** • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

## RF Level Check

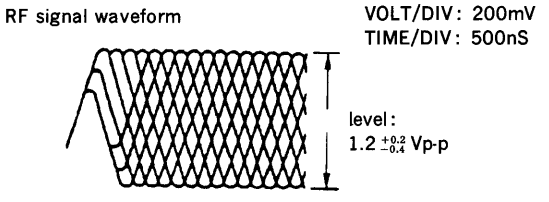



**Procedure :**

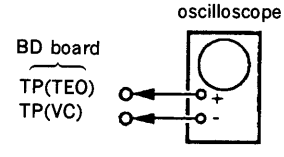
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note :**

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

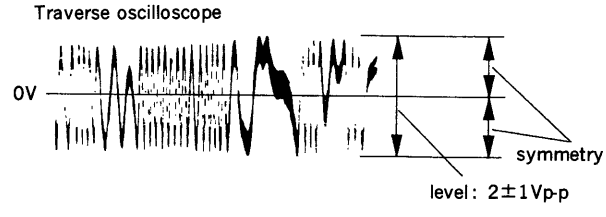



## E-F Balance Check




**Procedure :**

1. Connect test point TP (AFJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

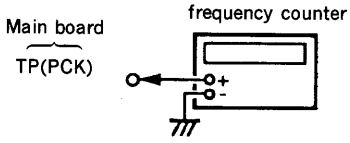



6. Remove the lead wire connected in step 1.

### RF PLL Free-run Frequency Check

**Procedure :**

1. Connect frequency counter to test point (PCK) with lead wire.



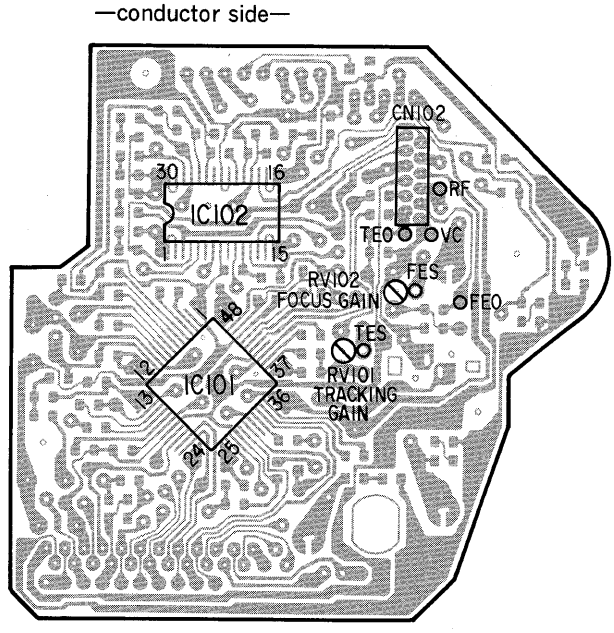

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

### Focus/Tracking Gain

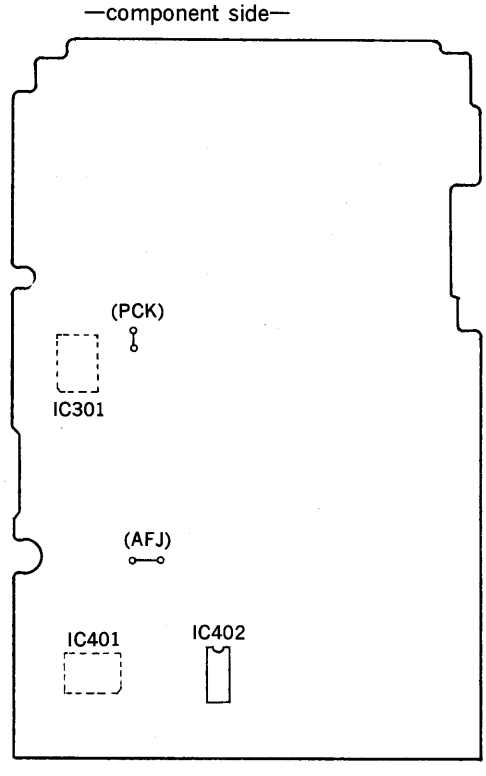
This gain has a margin, so even if it is slightly off.
There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

**Adjustment Locations :**

【BD board】

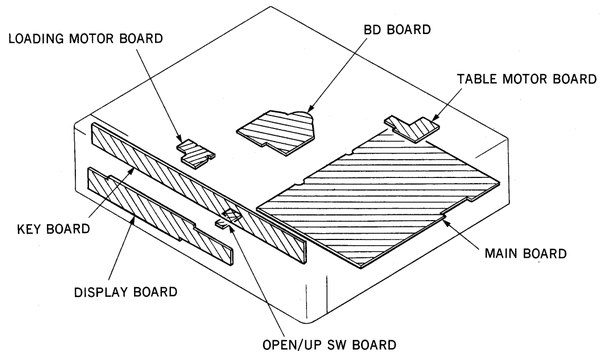



【MAIN board】



# SECTION 3
# DIAGRAMS

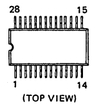
## 3-1. CIRCUIT BOARDS LOCATION




## 3-2. SEMICONDUCTOR LEAD LAYOUTS

**CXA1291P**

**CXD2561M**

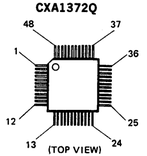



**M5293L**

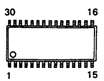
**DTC144EK**

**2SD774-34**

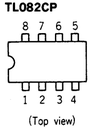
**CXA1372Q**



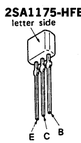

**LA6532M**



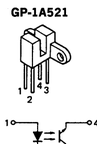

**RC4558P**
**TL082CP**



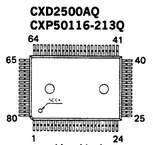

**2SA1175-HFE**



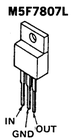

**GP-1A521**




**CXD2500AQ**
**CXP50116-213Q**

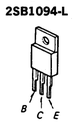



**M5F7807L**

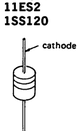



**DTA144ES**
**DTC144ES**

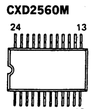
**2SB1094-L**



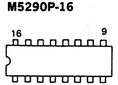

**RD5.6ES-B2**
**RD6.8ES-B2**
**11EQS04**
**11ES2**
**1SS120**




**CXD2560M**




**M5290P-16**



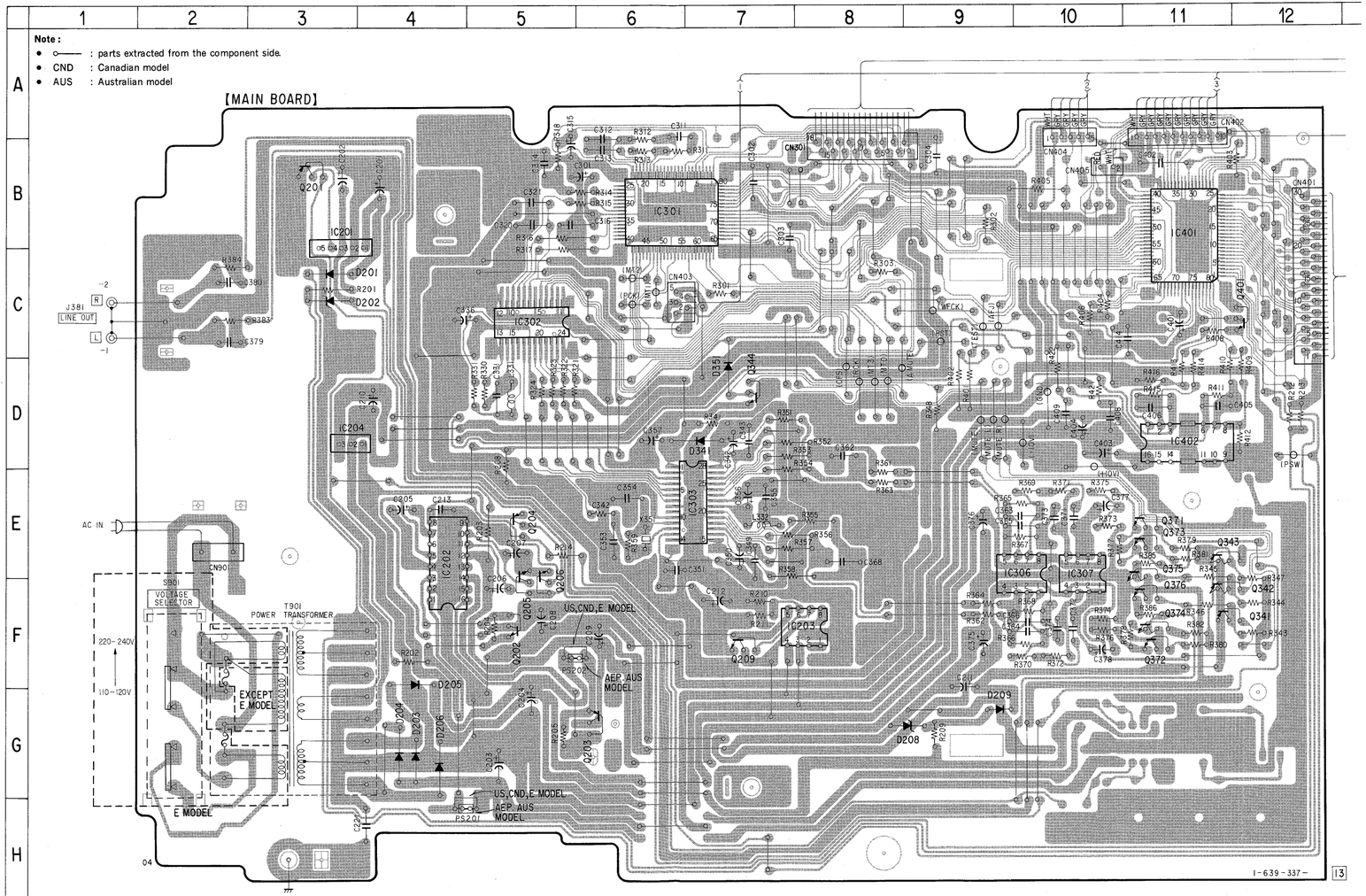

**2SC1815-Y**
**2SC2878-AB**
**2SC3623A-LK**

## • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D201 | C-3 |
| D202 | C-3 |
| D203 | G-4 |
| D204 | G-4 |
| D205 | F-4 |
| D206 | G-4 |
| D208 | G-9 |
| D209 | G-9 |
| D341 | D-7 |
| D351 | D-7 |
| IC201 | B-3 |
| IC202 | E-4 |
| IC203 | F-8 |
| IC204 | D-3 |
| IC301 | B-6 |
| IC302 | C-5 |
| IC303 | E-7 |
| IC306 | E-9 |
| IC307 | E-10 |
| IC401 | B-11 |
| IC402 | D-11 |
| Q201 | B-3 |
| Q202 | F-5 |
| Q203 | G-6 |
| Q204 | E-5 |
| Q205 | F-5 |
| Q206 | F-5 |
| Q209 | F-7 |
| Q341 | F-11 |
| Q342 | F-11 |
| Q343 | E-11 |
| Q344 | D-7 |
| Q371 | E-11 |
| Q372 | F-11 |
| Q373 | E-11 |
| Q374 | F-11 |
| Q375 | E-11 |
| Q376 | F-11 |
| Q401 | C-12 |

## 3-3. PRINTED WIRING BOARD—Main Board Suffix-13—

Note :
- ○—— : parts extracted from the component side.
- CND : Canadian model
- AUS : Australian model



CDP-C312M CDP-C312M

• Semiconductor Location

| Ref. No. | Location |
|---|---|
| D201 | C-5 |
| D202 | C-5 |
| D203 | G-6 |
| D204 | G-5 |
| D205 | F-6 |
| D206 | G-6 |
| D208 | G-10 |
| D209 | G-11 |
| D341 | D-8 |
| D351 | D-8 |
| D701 | A-18 |
| | |
| IC101 | C-20 |
| IC102 | B-20 |
| IC201 | B-5 |
| IC202 | E-6 |
| IC203 | F-9 |
| IC204 | D-5 |
| IC301 | B-8 |
| IC302 | C-7 |
| IC303 | E-8 |
| IC306 | E-11 |
| IC307 | E-12 |
| IC401 | B-13 |
| IC402 | D-13 |
| IC551 | I-15 |
| | |
| Q101 | D-21 |
| Q201 | B-5 |
| Q202 | F-6 |
| Q203 | G-7 |
| Q204 | E-7 |
| Q205 | F-7 |
| Q206 | F-7 |
| Q209 | F-9 |
| Q341 | F-13 |
| Q342 | F-13 |
| Q343 | E-13 |
| Q344 | D-9 |
| Q371 | E-12 |
| Q372 | F-12 |
| Q373 | E-12 |
| Q374 | F-12 |
| Q375 | E-12 |
| Q376 | F-12 |
| Q401 | C-13 |

## 3-4. PRINTED WIRING BOARDS—Main Board Suffix-11—

• Refer to Page 7 for Semiconductor Lead Layouts.

Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.
- AUS: Australian model

[MAIN BOARD]

[TABLE MOTOR BOARD]

[BD BOARD]

[OPEN/UP SW BOARD]

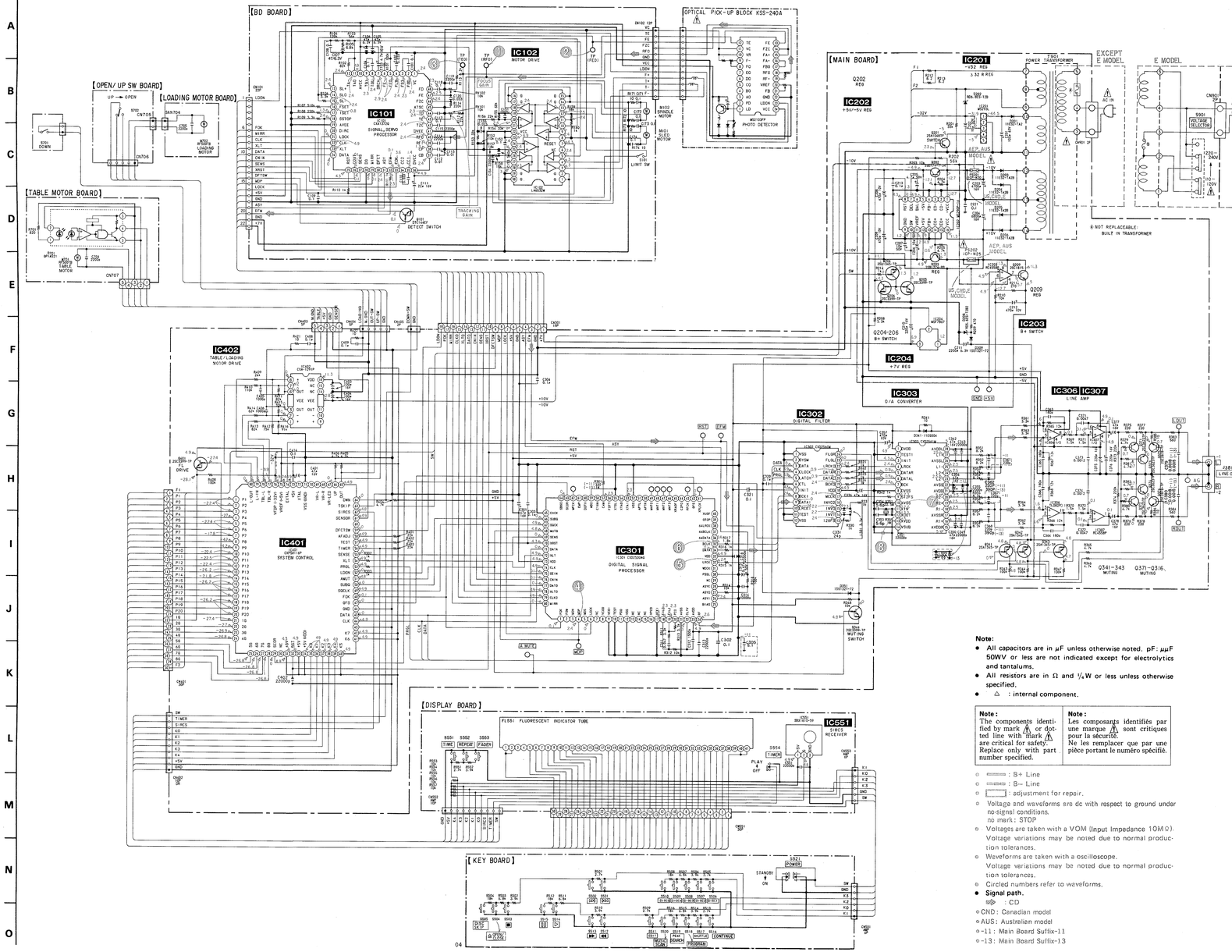
[LOADING MOTOR BOARD]

OPTICAL PICK-UP BLOCK KSS-240A

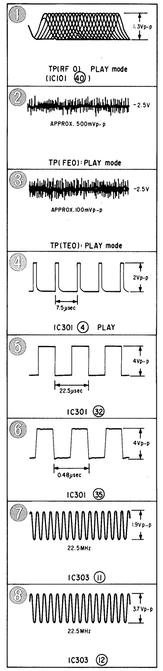
FL551 FLUORESCENT INDICATOR TUBE

[KEY BOARD]

[DISPLAY BOARD]

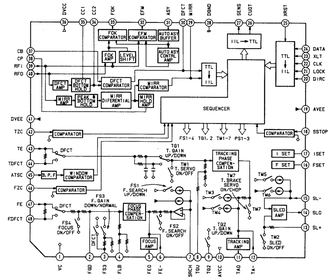



## • Wave forms

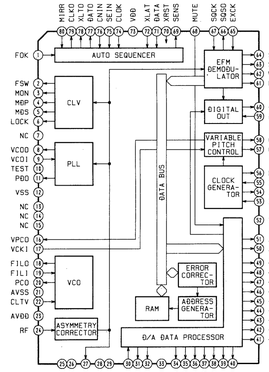



## • IC Block Diagrams

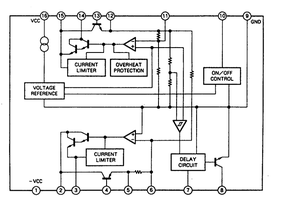
### IC101 CXA1372Q



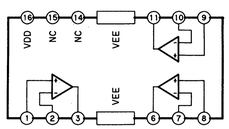
### IC301 CXD2500AQ



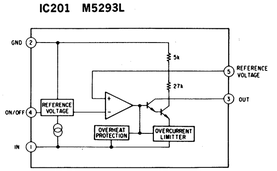

### IC202 M5290P




### IC402 CXA1291P




### IC201 M5293L




**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

| Note : | Note : |
|---|---|
| The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |

- ▭▭▭ : B+ Line
- ▭▭▭ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- **Signal path.**
  ▭▷ : CD
- ○CND : Canadian model
- ○AUS : Australian model
- ○-11 : Main Board Suffix-11
- ○-13 : Main Board Suffix-13

# SECTION 4
# EXPLODED VIEWS

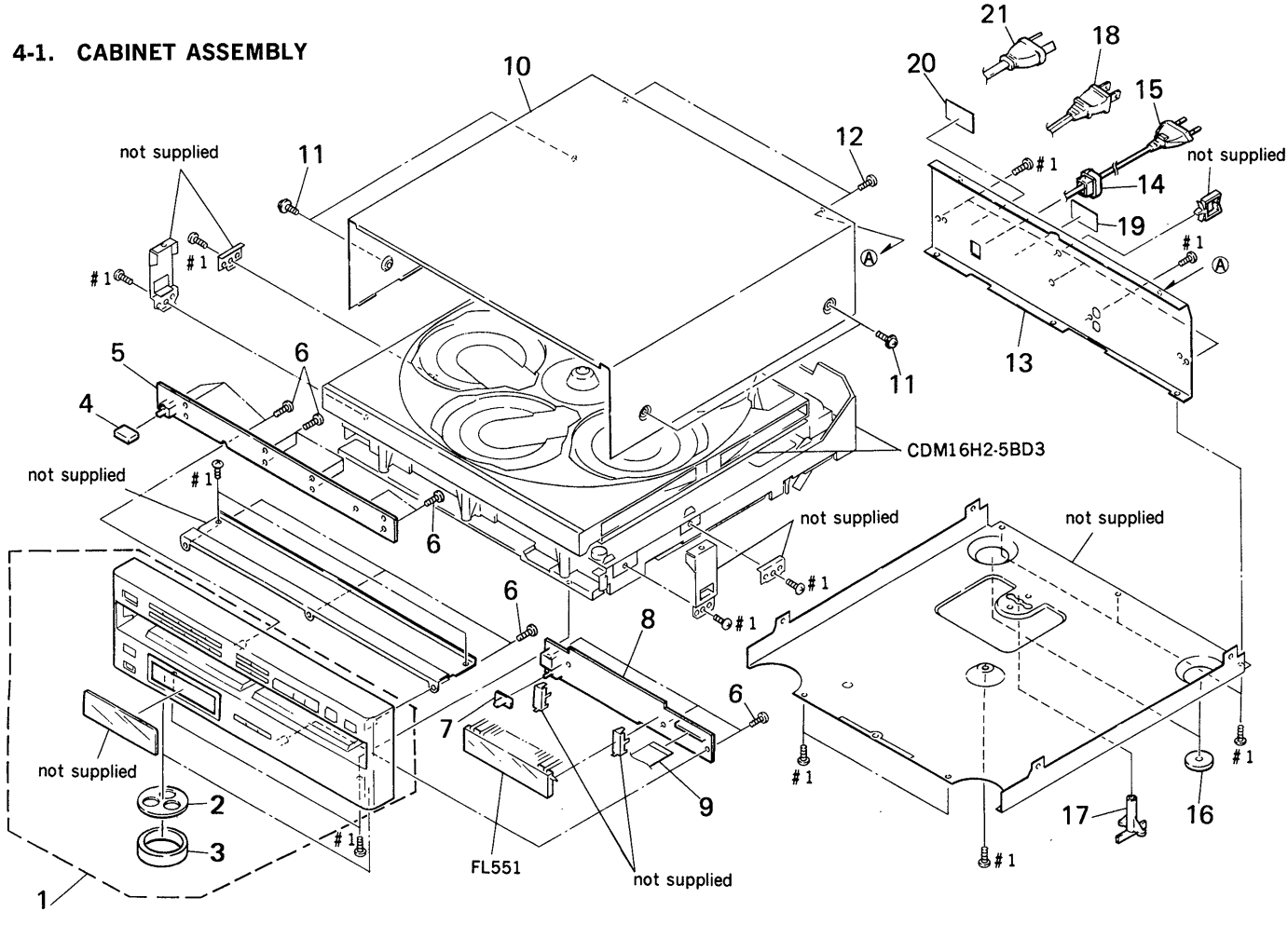
**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ Parts Color ↑ Cabinet's Color
- CND: Canadian model
- AUS: Australian model
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

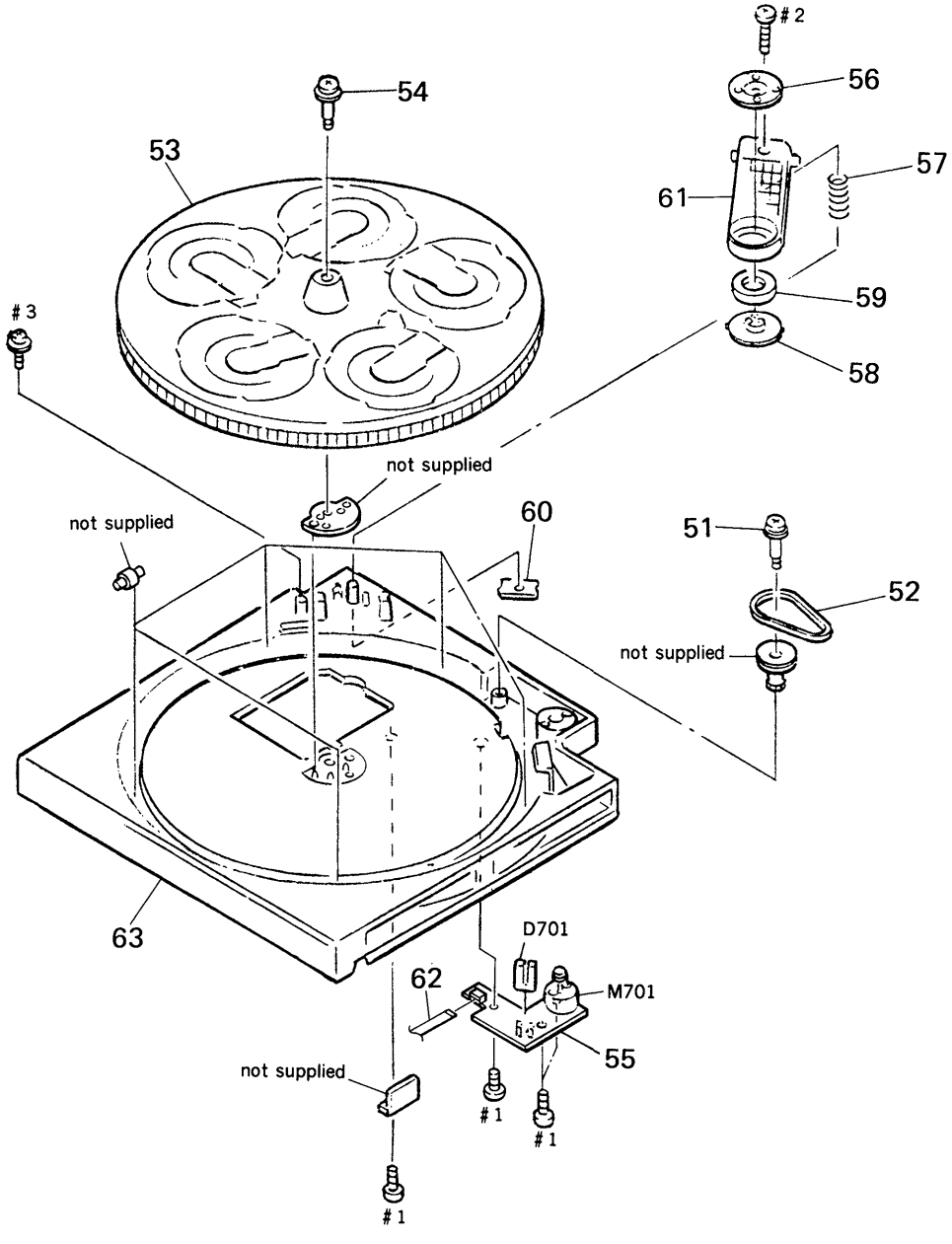
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

## 4-1. CABINET ASSEMBLY




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | X-4941-569-1 | PANEL ASSY, FRONT (AEP, AUS, E) | |
| 1 | X-4941-570-1 | PANEL ASSY, FRONT (US, CND) | |
| 2 | 4-921-906-01 | FELT | |
| 3 | 4-921-918-11 | PLATE, ORNAMENTAL | |
| 4 | 4-927-341-01 | BUTTON (POWER) | |
| 5 | * 1-639-339-11 | KEY BOARD | |
| 6 | 4-928-635-01 | SCREW, +BV (2.6X8) TAPPING | |
| 7 | 4-922-518-01 | KNOB (TIMER) | |
| 8 | * 1-639-338-11 | DISPLAY BOARD | |
| 9 | 1-590-905-11 | WIRE, FLAT TYPE (30 CORE) | |
| 10 | * 4-943-992-01 | CASE | |
| 11 | 3-704-366-01 | SCREW (CASE) (M3X8) | |
| 12 | 3-703-685-21 | SCREW (+BV 3X8) | |
| 13 | * 4-943-120-71 | PANEL, BACK (AEP) | |
| 13 | * 4-943-120-81 | PANEL, BACK (AUS) | |
| 13 | * 4-943-120-91 | PANEL, BACK (US) | |
| 13 | * 4-943-120-61 | PANEL, BACK (E) | |
| 13 | * 4-943-844-11 | PANEL, BACK (CND) | |
| 14 | * 3-703-244-00 | BUSHING (2104), CORD | |
| 14 | * 3-703-571-11 | BUSHING (S) (4516), CORD (E) | |
| 15 | ⚠ 1-575-651-21 | CORD, POWER (AEP) | |
| 16 | 4-924-410-01 | FELT | |
| 17 | 4-937-945-01 | PLATE (TRANSPORT), LOCK | |
| 18 | ⚠ 1-590-836-11 | CORD, POWER (US, CND) | |
| 19 | * 4-941-548-01 | LABEL, CLASS 1 (AEP, E) | |
| 20 | * 4-941-548-01 | LABEL, CLASS 1 (AUS) | |
| 21 | ⚠ 1-574-358-31 | CORD, POWER (WITH CONNECTOR) (AUS) | |
| FL551 | 1-519-655-21 | FLUORESCENT INDICATOR | |

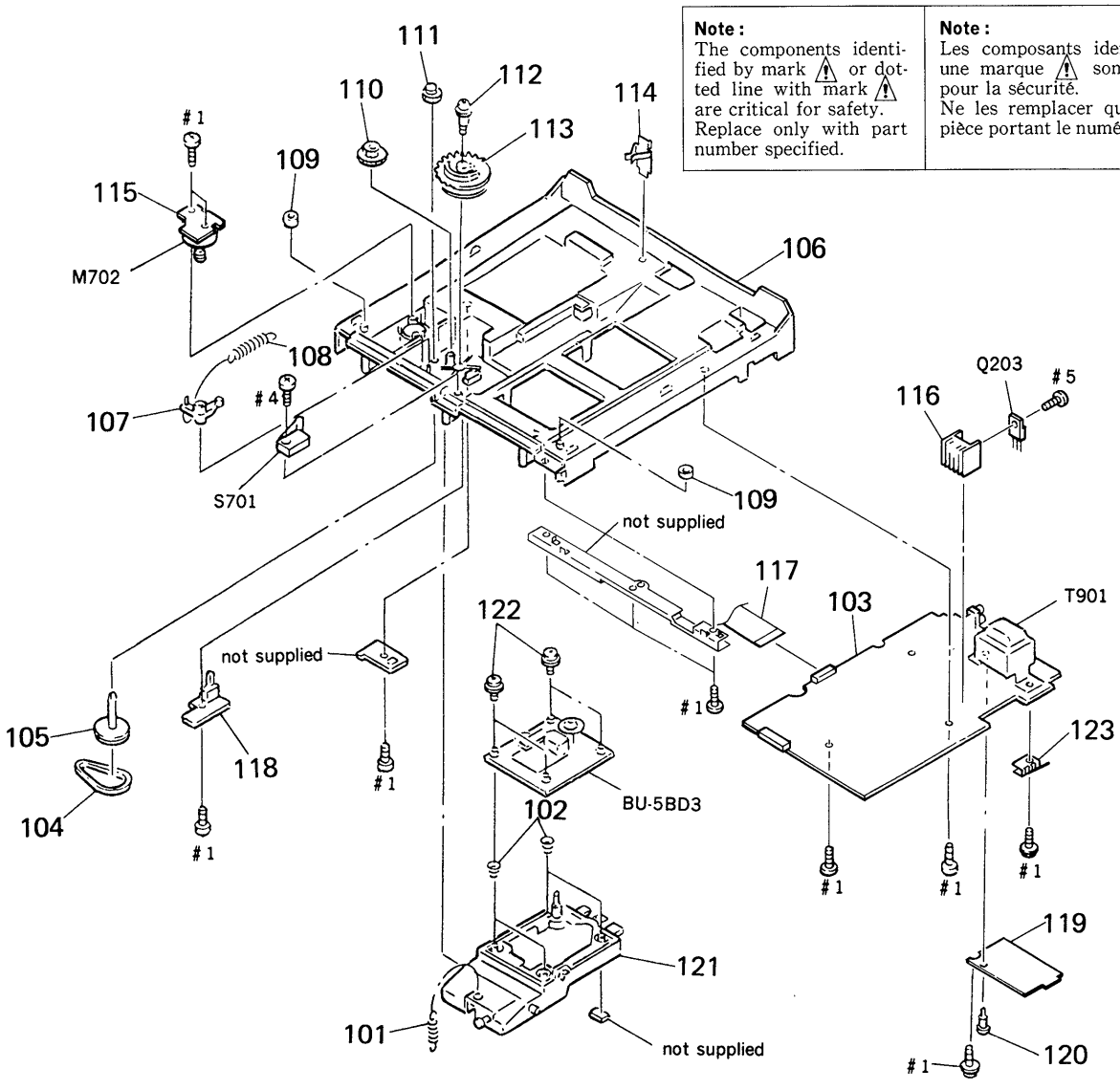
## 4-2. TRAY ASSEMBLY




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 4-923-597-01 | SCREW, STEP | |
| 52 | 4-926-399-01 | BELT | |
| 53 | * 4-926-383-02 | TABLE (B), DISK | |
| 54 | 4-926-384-01 | SCREW, STEP | |
| 55 | * 1-638-729-11 | TABLE MOTOR BOARD | |
| 56 | 4-921-029-01 | YOKE, CHUCKING | |
| 57 | 4-926-395-01 | SPRING, COMPRESSION | |
| 58 | 4-921-022-01 | PULLEY, CHUCKING | |
| 59 | 1-452-340-21 | MAGNET | |
| 60 | * 4-926-388-01 | BRACKET (ADJUSTMENT) | |
| 61 | * 4-930-506-02 | BRACKET (PRESS PULLEY) | |
| 62 | 1-590-849-11 | WIRE, FLAT TYPE (5 CORE) | |
| 63 | 4-943-995-11 | TABLE (A), DISC | |
| D701 | 8-719-970-19 | DIODE GP1A52J | |
| M701 | A-4604-585-A | MOTOR ASSY, ROTARY | |

## 4-3. CHASSIS ASSEMBLY

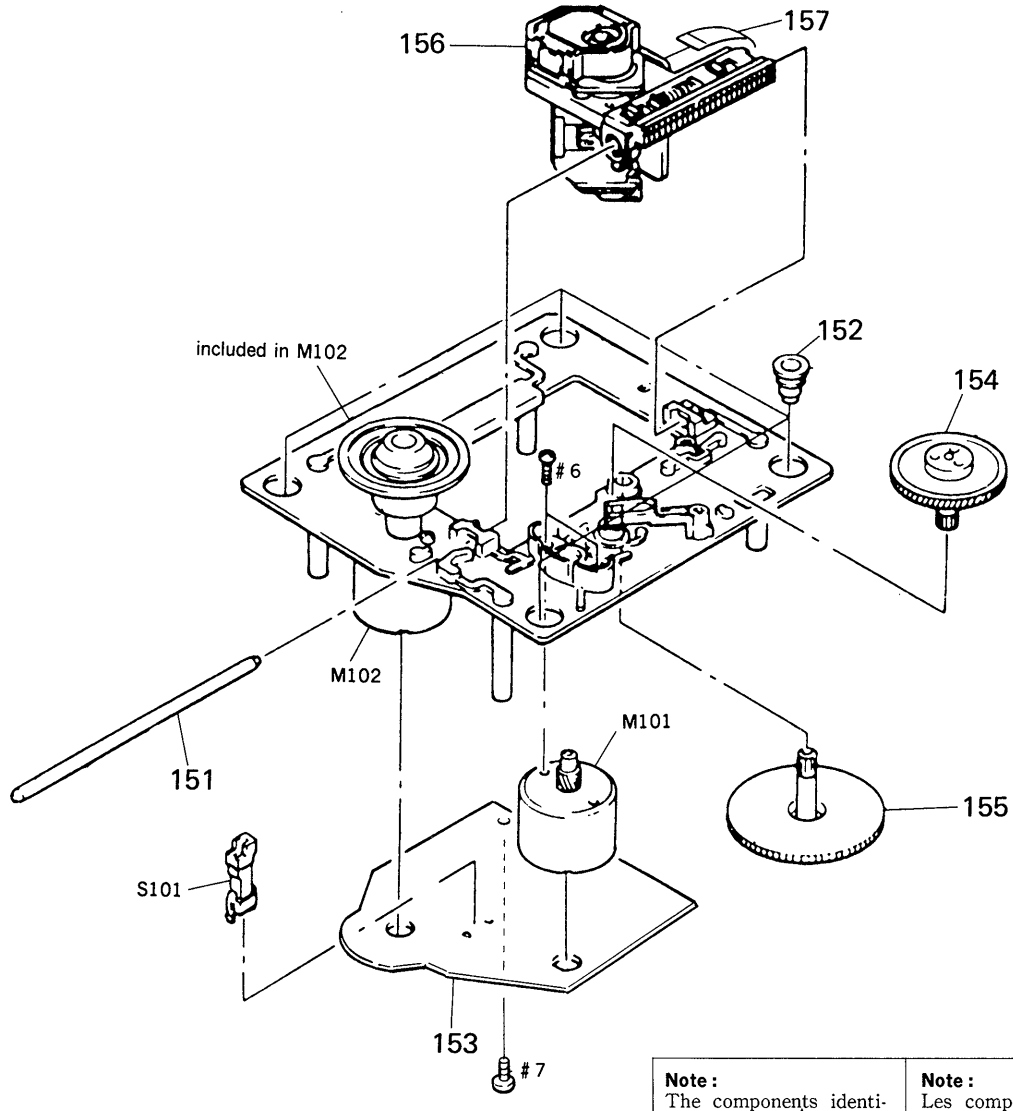
| Note : | Note : |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | 4-937-911-01 | SPRING, TENSION | |
| 102 | 4-917-541-01 | SPRING (B) | |
| 103 | * A-4617-854-A | MAIN BOARD, COMPLETE (AEP, AUS) | |
| 103 | * A-4617-888-A | MAIN BOARD, COMPLETE (US, CND) | |
| 103 | * A-4617-857-A | MAIN BOARD, COMPLETE (E) | |
| 104 | 4-944-490-01 | BELT (TIMING) | |
| 105 | X-4941-529-1 | PULLEY ASSY | |
| 106 | * 4-943-997-01 | CHASSIS | |
| 107 | 4-917-519-01 | LEVER, SET | |
| 108 | 4-924-412-01 | SPRING (B), TENSION | |
| 109 | * 4-934-382-01 | CUSHION | |
| 110 | 4-934-381-01 | GEAR (LOADING C) | |
| 111 | 4-934-375-01 | GEAR (LOADING B) | |
| 112 | 4-926-317-01 | SCREW, STEP | |
| 113 | 4-934-391-01 | GEAR (LOADING A) | |
| 114 | * 4-943-996-01 | SPRING, LEAF | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 115 | * 1-638-730-11 | LOADING MOTOR BOARD | |
| 116 | * 4-363-146-21 | HEAT SINK, V. OUT | |
| 117 | 1-535-892-11 | JUMPER, FILM (WITH TERMINAL) | |
| 118 | * 1-638-731-11 | OPEN/UP SW BOARD | |
| 119 | * 4-944-178-01 | SHEET (INSULATING) | |
| 120 | 3-531-576-11 | RIVET | |
| 121 | * 4-934-373-01 | BRACKET (BU) | |
| 122 | 4-933-134-01 | SCREW (+PTPWH M2.6X6) | |
| 123 | * 4-944-581-01 | PLATE, GROUND | |
| M702 | A-4604-834-A | MOTOR ASSY, LOADING | |
| Q203 | 8-729-111-67 | TRANSISTOR 2SB1274-RS | |
| S701 | 1-572-713-11 | SWITCH, PUSH (WITH CONNECTOR) (DOWN) | |
| T901 | ⚠ 1-449-954-11 | TRANSFORMER, POWER (US, CND) | |
| T901 | ⚠ 1-449-955-11 | TRANSFORMER, POWER (AEP, AUS) | |
| T901 | ⚠ 1-449-956-11 | TRANSFORMER, POWER (E) | |

## 4-4. OPTICAL PICK-UP BLOCK (BU-5BD3)




| Note : | Note : |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | 4-917-565-01 | SHAFT, SLED | |
| 152 | 4-933-126-01 | INSULATOR (A) | |
| 153 | * A-4617-371-A | BD BOARD, COMPLETE | |
| 154 | 4-917-567-01 | GEAR (M) | |
| 155 | 4-917-564-01 | GEAR (P), FLATNESS | |
| 156 | ⚠ 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 157 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| M101 | X-4917-504-1 | MOTOR, ASSY, SLED | |
| M102 | X-4917-523-3 | MOTOR ASSY, SPINDLE | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | |

# SECTION 5
# ELECTRICAL PARTS LIST

BD

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF : μF
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- COILS
  uH : μH
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD....
- CND : Canadian model
- AUS : Australian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| * | A-4617-371-A | BD BOARD, COMPLETE | | |
| | | ********** | | |
| | | < CAPACITOR > | | |
| C101 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C102 | 1-163-989-11 | CERAMIC CHIP 0.033uF | 10% 25V | |
| C103 | 1-126-163-11 | ELECT 4.7uF | 20% 50V | |
| C104 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C105 | 1-126-154-11 | ELECT 47uF | 20% 6.3V | |
| C106 | 1-126-154-11 | ELECT 47uF | 20% 6.3V | |
| C107 | 1-126-154-11 | ELECT 47uF | 20% 6.3V | |
| C108 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C109 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C110 | 1-163-989-11 | CERAMIC CHIP 0.033uF | 10% 25V | |
| C111 | 1-131-367-00 | TANTALUM 22uF | 10% 20V | |
| C112 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V | |
| C113 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V | |
| C114 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V | |
| C115 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V | |
| C117 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C118 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C119 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V | |
| C120 | 1-163-989-11 | CERAMIC CHIP 0.033uF | 10% 25V | |
| C151 | 1-163-019-00 | CERAMIC CHIP 0.0068uF | 10% 50V | |
| C152 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C153 | 1-163-006-11 | CERAMIC CHIP 560PF | 10% 50V | |
| C154 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V | |
| C155 | 1-163-023-00 | CERAMIC CHIP 0.015uF | 5% 50V | |
| C171 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C172 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C173 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |
| C174 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | |

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| | | < CONNECTOR > | | |
| CN101 | 1-568-796-11 | SOCKET, CONNECTOR 22P | | |
| CN102 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | |
| | | < IC > | | |
| IC101 | 8-752-050-82 | IC CXA1372Q | | |
| IC102 | 8-759-821-94 | IC LA6532M | | |
| | | < JUMPER > | | |
| J101 | 1-216-295-00 | METAL CHIP 0 | 5% 1/10W | |
| J102 | 1-216-295-00 | METAL CHIP 0 | 5% 1/10W | |
| | | < TRANSISTOR > | | |
| Q101 | 8-729-901-01 | TRANSISTOR DTC144EK | | |
| | | < RESISTOR > | | |
| R101 | 1-216-097-00 | METAL CHIP 100K | 5% 1/10W | |
| R102 | 1-216-095-00 | METAL CHIP 82K | 5% 1/10W | |
| R103 | 1-216-091-00 | METAL CHIP 56K | 5% 1/10W | |
| R104 | 1-216-099-00 | METAL CHIP 120K | 5% 1/10W | |
| R105 | 1-216-069-00 | METAL CHIP 6.8K | 5% 1/10W | |
| R106 | 1-216-061-00 | METAL CHIP 3.3K | 5% 1/10W | |
| R107 | 1-216-114-00 | METAL GLAZE 510K | 5% 1/10W | |
| R108 | 1-216-105-00 | METAL CHIP 220K | 5% 1/10W | |
| R109 | 1-216-061-00 | METAL CHIP 3.3K | 5% 1/10W | |
| R110 | 1-216-049-00 | METAL CHIP 1K | 5% 1/10W | |
| R111 | 1-216-049-00 | METAL CHIP 1K | 5% 1/10W | |
| R112 | 1-216-083-00 | METAL CHIP 27K | 5% 1/10W | |
| R113 | 1-216-071-00 | METAL CHIP 8.2K | 5% 1/10W | |
| R114 | 1-216-105-00 | METAL CHIP 220K | 5% 1/10W | |
| R152 | 1-216-073-00 | METAL CHIP 10K | 5% 1/10W | |
| R153 | 1-216-085-00 | METAL CHIP 33K | 5% 1/10W | |

# BD MAIN, DISPLAY, KEY

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R154 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R155 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R156 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R157 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R158 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R159 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R160 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R171 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R172 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R173 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R174 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| | | < VARIABLE RESISTOR > | | | |
| RV101 | 1-238-016-11 | RES, ADJ, CARBON 10K | | | |
| RV102 | 1-238-016-11 | RES, ADJ, CARBON 10K | | | |
| | | < SWITCH > | | | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT) | | | |
| ********** | | | | | |
| * | A-4617-854-A | MAIN BOARD, COMPLETE (AEP, AUS) | | | |
| | | ********** | | | |
| * | A-4617-888-A | MAIN BOARD, COMPLETE (US, CND) | | | |
| | | ********** | | | |
| * | A-4617-857-A | MAIN BOARD, COMPLETE (E) | | | |
| | | ********** | | | |
| * | 1-639-338-11 | DISPLAY BOARD | | | |
| | | ********** | | | |
| * | 1-639-339-11 | KEY BOARD | | | |
| | | ********* | | | |
| * | 4-363-146-21 | HEAT SINK, V. OUT | | | |
| | 7-682-548-09 | SCREW +BVTT 3X8 (S) | | | |
| | | < CAPACITOR > | | | |
| C201 | 1-124-572-11 | ELECT | 100uF | 20% | 63V |
| C202 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C203 | 1-126-937-11 | ELECT | 4700uF | 20% | 16V |
| C204 | 1-126-017-11 | ELECT | 6800uF | 20% | 16V |
| C205 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C206 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C207 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C208 | 1-124-997-11 | ELECT | 470uF | 20% | 10V |
| C209 | 1-124-997-11 | ELECT | 470uF | 20% | 10V |
| C210 | 1-126-024-11 | ELECT | 220uF | 20% | 16V |
| C211 | 1-124-893-11 | ELECT | 2200uF | 20% | 10V |
| C212 | 1-124-997-11 | ELECT | 470uF | 20% | 10V |
| C213 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C221 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C301 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C302 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C303 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C304 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C305 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| | | (Board Suffix-11) | | | |
| C311 | 1-136-161-00 | FILM | 0.047uF | 5% | 50V |
| C312 | 1-161-374-11 | CERAMIC | 0.0015uF | 20% | 50V |
| C313 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C314 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C315 | 1-126-300-11 | ELECT | 0.47uF | 20% | 50V |
| C316 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C320 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C321 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C331 | 1-162-208-31 | CERAMIC | 24PF | 5% | 50V |
| C336 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C342 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C343 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C349 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C350 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C351 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C353 | 1-162-196-31 | CERAMIC | 5.6PF | 10% | 50V |
| C354 | 1-162-196-31 | CERAMIC | 5.6PF | 10% | 50V |
| C355 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C356 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C357 | 1-124-997-11 | ELECT | 470uF | 20% | 10V |
| C361 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| | | (Board Suffix-11) | | | |
| C362 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| | | (Board Suffix-11) | | | |
| C362 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| | | (Board Suffix-13) | | | |
| C363 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C364 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C365 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C366 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C367 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| | | (Board Suffix-11) | | | |
| C368 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| | | (Board Suffix-11) | | | |
| C368 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| | | (Board Suffix-13) | | | |
| C371 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C372 | 1-130-479-00 | MYLAR | 0.0047uF | 5% | 50V |
| C373 | 1-130-472-00 | MYLAR | 0.0012uF | 5% | 50V |
| C374 | 1-130-472-00 | MYLAR | 0.0012uF | 5% | 50V |
| C375 | 1-126-024-11 | ELECT | 220uF | 20% | 16V |
| C376 | 1-126-024-11 | ELECT | 220uF | 20% | 16V |
| C377 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C378 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |

# MAIN, DISPLAY, KEY

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C379 | 1-130-474-00 | MYLAR (Board Suffix-11) | 0.0018uF | 5% | 50V |
| C379 | 1-130-473-00 | MYLAR (Board Suffix-13) | 0.0015uF | 5% | 50V |
| C380 | 1-130-474-00 | MYLAR (Board Suffix-11) | 0.0018uF | 5% | 50V |
| C380 | 1-130-473-00 | MYLAR (Board Suffix-13) | 0.0015uF | 5% | 50V |
| C401 | 1-126-022-11 | ELECT | 47uF | 20% | 16V |
| C402 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C403 | 1-126-023-11 | ELECT | 100uF | 20% | 16V |
| C404 | 1-126-023-11 | ELECT | 100uF | 20% | 16V |
| C405 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C406 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C408 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C409 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C414 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C551 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| | | < CONNECTOR > | | | |
| CN301 * | 1-573-046-11 | SOCKET, CONNECTOR 18P | | | |
| CN401 * | 1-573-045-11 | SOCKET, CONNECTOR 30P | | | |
| CN402 * | 1-568-948-11 | PIN, CONNECTOR 10P | | | |
| CN403 * | 1-568-824-11 | SOCKET, CONNECTOR 5P | | | |
| CN404 * | 1-568-943-11 | PIN, CONNECTOR 5P | | | |
| CN551 * | 1-568-933-11 | SOCKET, CONNECTOR 30P | | | |
| CN901 * | 1-573-047-11 | PIN, CONNECTOR | | | |
| | | < DIODE > | | | |
| D201 | 8-719-200-82 | DIODE | 1ES2 | | |
| D202 | 8-719-109-97 | DIODE | RD6.8ES-B2 | | |
| D203 | 8-719-200-82 | DIODE | 1ES2 | | |
| D204 | 8-719-200-82 | DIODE | 1ES2 | | |
| D205 | 8-719-200-82 | DIODE | 1ES2 | | |
| D206 | 8-719-200-82 | DIODE | 1ES2 | | |
| D208 | 8-719-109-89 | DIODE | RD5.6ES-B2 | | |
| D209 | 8-719-912-20 | DIODE | 1SS120 | | |
| D341 | 8-719-210-21 | DIODE | 1EQS04 | | |
| D351 | 8-719-912-20 | DIODE | 1SS120 | | |
| | | < INDICATOR > | | | |
| FL551 | 1-519-655-11 | FLUORESCENT INDICATOR | | | |
| | | < IC > | | | |
| IC201 | 8-759-633-42 | IC | M5293L | | |
| IC202 | 8-759-630-21 | IC | M5290P-16 | | |
| IC203 | 8-759-945-58 | IC | RC4558P | | |
| IC204 | 8-759-604-86 | IC | M5F7807L | | |
| IC301 | 8-752-337-26 | IC | CXD2500AQ | | |
| IC302 | 8-752-342-65 | IC | CXD2560M | | |
| IC303 | 8-752-343-01 | IC | CXD2561M | | |
| IC306 | 8-759-990-82 | IC | TL082CP | | |
| IC307 | 8-759-945-58 | IC | RC4558P | | |
| IC401 | 8-752-817-42 | IC | CXP50116-213Q | | |
| IC402 | 8-752-035-28 | IC | CXD1291P | | |
| IC551 | 8-741-100-48 | IC | SBX1610-59 | | |
| | | < JACK > | | | |
| J381 | 1-569-442-11 | JACK, PIN 2P (LINE OUT) | | | |
| | | < COIL > | | | |
| L331 | 1-408-403-00 | INDUCTOR | 3.3uH | | |
| L332 | 1-412-473-21 | INDUCTOR (Board Suffix-13) | | | |
| | | < IC LINC > | | | |
| PS201 ⚠ | 1-532-685-00 | LINK, IC (AEP, AUS) | | | |
| PS202 ⚠ | 1-532-637-00 | LINK, IC | 1.0A (AEP, AUS) | | |
| | | < TRANSISTOR > | | | |
| Q201 | 8-729-119-76 | TRANSISTOR | 2SA1175-HFE | | |
| Q202 | 8-729-140-96 | TRANSISTOR | 2SD774-34 | | |
| Q203 | 8-729-111-67 | TRANSISTOR | 2SB1094-L | | |
| Q204 | 8-729-900-65 | TRANSISTOR | DTA144ES | | |
| Q205 | 8-729-900-89 | TRANSISTOR | DTC144ES | | |
| Q206 | 8-729-900-89 | TRANSISTOR | DTC144ES | | |
| Q209 | 8-729-281-52 | TRANSISTOR | 2SC1815-Y | | |
| Q341 | 8-729-900-65 | TRANSISTOR | DTA144ES | | |
| Q342 | 8-729-900-65 | TRANSISTOR | DTA144ES | | |
| Q343 | 8-729-900-65 | TRANSISTOR | DTA144ES | | |
| Q344 | 8-729-900-89 | TRANSISTOR | DTC144ES | | |
| Q371 | 8-729-141-30 | TRANSISTOR | 2SC3623A-LK | | |
| Q372 | 8-729-141-30 | TRANSISTOR | 2SC3623A-LK | | |
| Q373 | 8-729-141-30 | TRANSISTOR | 2SC3623A-LK | | |
| Q374 | 8-729-141-30 | TRANSISTOR | 2SC3623A-LK | | |
| Q375 | 8-729-231-55 | TRANSISTOR | 2SC2878-AB | | |
| Q376 | 8-729-231-55 | TRANSISTOR | 2SC2878-AB | | |
| Q401 | 8-729-900-89 | TRANSISTOR | DTC144ES | | |
| | | < RESISTOR > | | | |
| R201 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R202 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R203 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R204 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R205 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R208 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R209 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R210 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

**Note :**
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

## MAIN, DISPLAY, KEY

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R211 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W |
| R212 | 1-249-392-11 | CARBON | 8.2 | 5% | 1/4W |
| R213 | 1-249-392-11 | CARBON | 8.2 | 5% | 1/4W |
| R214 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R301 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| | | (Board Suffix-11) | | | |
| R301 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| | | (Board Suffix-13) | | | |
| R302 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R303 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R311 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R312 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R313 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R314 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R315 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R316 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R317 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R318 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R321 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R322 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R323 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R324 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R330 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R331 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R341 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R342 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R343 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R344 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R345 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R346 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R347 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R348 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R351 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R352 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R353 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R354 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R355 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R356 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R357 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R358 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R359 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R361 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R362 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R363 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R364 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R365 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R366 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R367 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R368 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R369 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R370 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R371 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R372 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R373 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R374 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R375 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R376 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R377 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R378 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R379 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R380 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R381 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R382 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R383 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R384 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R385 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R386 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R401 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R402 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R403 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R404 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R405 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R406 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R408 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R409 | 1-247-864-11 | CARBON | 24K | 5% | 1/4W |
| R410 | 1-247-880-11 | CARBON | 110K | 5% | 1/4W |
| R411 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R412 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W |
| R413 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R414 | 1-247-874-11 | CARBON | 62K | 5% | 1/4W |
| R415 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R416 | 1-247-878-00 | CARBON | 91K | 5% | 1/4W |
| R421 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R422 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R501 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R502 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R503 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R504 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R505 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R506 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R507 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R508 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R509 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R510 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R511 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R512 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R513 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R514 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |

## MAIN, DISPLAY, KEY

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R515 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R516 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R551 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R552 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R553 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R554 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R555 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R556 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R557 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | < SWITCH > | | | |
| S501 | 1-554-303-21 | SWITCH, TACTILE ( ⏮ ) | | | |
| S502 | 1-554-303-21 | SWITCH, TACTILE ( ⏭ ) | | | |
| S503 | 1-554-303-21 | SWITCH, TACTILE ( ■ ) | | | |
| S504 | 1-554-303-21 | SWITCH, TACTILE (OPEN/CLOSE) | | | |
| S505 | 1-554-303-21 | SWITCH, TACTILE (DISK SKIP) | | | |
| S506 | 1-554-303-21 | SWITCH, TACTILE (DISC 1) | | | |
| S507 | 1-554-303-21 | SWITCH, TACTILE (DISC 2) | | | |
| S508 | 1-554-303-21 | SWITCH, TACTILE (DISC 3) | | | |
| S509 | 1-554-303-21 | SWITCH, TACTILE (DISC 4) | | | |
| S510 | 1-554-303-21 | SWITCH, TACTILE (DISC 5) | | | |
| S511 | 1-554-303-21 | SWITCH, TACTILE (EDIT) | | | |
| S512 | 1-554-303-21 | SWITCH, TACTILE ( ◀◀ ) | | | |
| S513 | 1-554-303-21 | SWITCH, TACTILE ( ▶▶ ) | | | |
| S514 | 1-554-303-21 | SWITCH, TACTILE ( ▷ ) | | | |
| S515 | 1-554-303-21 | SWITCH, TACTILE ( ▯▯ ) | | | |
| S516 | 1-554-303-21 | SWITCH, TACTILE (CONTINUE) | | | |
| S517 | 1-554-303-21 | SWITCH, TACTILE (SHUFFLE) | | | |
| S518 | 1-554-303-21 | SWITCH, TACTILE (PROGRAM) | | | |
| S519 | 1-554-303-21 | SWITCH, TACTILE (PEAK SEARCH) | | | |
| S520 | 1-554-303-21 | SWITCH, TACTILE (MUSIC SCAN) | | | |
| S521 | 1-572-714-11 | SWITCH, PUSH (POWER) | | | |
| S551 | 1-554-303-21 | SWITCH, TACTILE (TIMER) | | | |
| S552 | 1-554-303-21 | SWITCH, TACTILE (REPEAT) | | | |
| S553 | 1-554-303-21 | SWITCH, TACTILE (FADER) | | | |
| S554 | 1-570-157-51 | SWITCH, SLIDE (TIMER) | | | |
| S901 | ⚠ 1-571-722-11 | SWITCH, VOLTAGE SELECTOR (E) | | | |
| | | < CRYSTAL > | | | |
| X351 | 1-567-965-11 | VIBRATOR, CRYSTAL (22.5MHz) | | | |

**********

## TABLE MOTOR, LOADING MOTOR, OPEN/UP SW

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | * 1-638-729-11 | TABLE MOTOR BOARD | | | |
| | | ********** | | | |
| | * 1-638-730-11 | LOADING MOTOR BOARD | | | |
| | | ********** | | | |
| | * 1-638-731-11 | OPEN/UP SW BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C704 | 1-161-375-00 | CERAMIC | 0.0022uF | 20% 50V | |
| C705 | 1-161-375-00 | CERAMIC | 0.0022uF | 20% 50V | |
| | | < CONNECTOR > | | | |
| CN705 | * 1-566-214-11 | PIN, CONNECTOR (PC BOARD) 2P | | | |
| CN707 | * 1-573-044-11 | SOCKET, CONNECTOR | | | |
| | | < DIODE > | | | |
| D701 | 8-719-970-19 | DIODE GP-1A521 | | | |
| | | < RESISTOR > | | | |
| R701 | 1-249-416-11 | CARBON | 820 | 5% 1/4W | |
| | | < SWITCH > | | | |
| S702 | 1-571-300-21 | SWITCH, ROTARY (OPEN/UP) | | | |

**********

MISCELLANEOUS

**********

| | | | |
|---|---|---|---|
| 9 | 1-590-905-11 | WIRE, FLAT TYPE (30 CORE) | |
| 15 | ⚠ 1-575-651-21 | CORD, POWER (AEP) | |
| 18 | ⚠ 1-575-653-21 | CORD, POWER (E) | |
| 18 | ⚠ 1-590-836-11 | CORD, POWER (US, CND) | |
| 21 | ⚠ 1-574-358-31 | CORD, POWER (WITH CONNECTOR) | (AUS) |
| 59 | 1-452-340-21 | MAGNET | |
| 62 | 1-590-849-11 | WIRE, FLAT TYPE (5 CORE) | |
| 117 | 1-535-892-11 | JUMPER, FILM (WITH TERMINAL) | |
| 156 | ⚠ 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 157 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| M101 | X-4917-504-1 | MOTOR, ASSY, SLED | |
| M102 | X-4917-523-3 | MOTOR ASSY, SPINDLE | |
| M701 | A-4604-585-A | MOTOR ASSY, ROTARY | |
| M702 | A-4604-834-A | MOTOR ASSY, LOADING | |
| S701 | 1-572-713-11 | SWITCH, PUSH (WITH CONNECTOR) | (DOWN) |
| T901 | ⚠ 1-449-954-11 | TRANSFORMER, POWER (US, CND) | |
| T901 | ⚠ 1-449-955-11 | TRANSFORMER, POWER (AEP, AUS) | |
| T901 | ⚠ 1-449-956-11 | TRANSFORMER, POWER (E) | |

**********

**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

**Note :**
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORY & PACKING MATERIAL | |
| | | ********** | |
| | 3-753-030-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (CND) | |
| | 3-753-030-21 | MANUAL, INSTRUCTION (ENGLISH) (US, AUS) | |
| | 3-753-030-41 | MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP) | |
| * | 4-944-039-11 | INDIVIDUAL CARTON (EXCEPT E) | |
| * | 4-944-040-01 | CUSHION (FRONT) | |
| * | 4-944-041-01 | CUSHION (REAR) | |

**********

## HARDWARE LIST

| | | |
|---|---|---|
| # 1 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S |
| # 2 | 7-682-554-04 | SCREW +B 3X25 |
| # 3 | 7-685-648-79 | SCREW (M3X12), TAPPING |
| # 4 | 7-685-136-19 | SCREW +P 2.6X12 TYPE2 NON-SLIT |
| # 5 | 7-682-548-09 | SCREW +BVTT 3X8 (S) |
| # 6 | 7-621-255-15 | SCREW +P 2X3 |
| # 7 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S |

9-956-324-13

Sony Corporation
Audio Group

English
91K0406-1
Printed in Japan
© 1991. 11



Published by Customer Relations and Service Group